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Facilitating Effective Student Learning through Teacher Research and Innovation

Edited by

Milena Valenčič Zuljan and Janez Vogrinc

Ljubljana 2010

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Edited by Milena Valenčič Zuljan and Janez Vogrinc
Reviewed by Prof. Ddr. Barica Marentič Požarnik,
University of Ljubljana, Slovenia
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Novi Sad, Serbia
Proofreading Urška Sešek, University of Ljubljana, Slovenia
Publisher Faculty of Education, University of Ljubljana,
Slovenia
For the publisher Janez Krek, Dean
Cover designed by Roman Ražman
DTP by Igor Cerar
Printed by Littera picta d.o.o. Ljubljana

300 copies

©2010

The publication was financed as part of the research project
»Encouraging a culture of research and innovation in schools through a
process of lifelong teacher learning« (Ministry of Education and Sport).

CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

378.147(082)

FACILITATING effective student learning through teacher research
and innovation / edited by Milena Valenčič Zuljan and Janez
Vogrinc. - Ljubljana : Faculty of Education, 2010

ISBN 978-961-253-051-8
1. Valenčič Zuljan, Milena
251854592

COMPETENCE PROFILE DIFFERENCES AMONG GRADUATES FROM DIFFERENT ACADEMIC SUBJECT FIELDS. IMPLICATIONS FOR IMPROVING STUDENTS' EDUCATION⁹

Juan Luis Castejón Costa, Raquel Gilar Corbi and María Luisa Pertegal Felices

Department of Developmental and Instructional Psychology, University of Alicante, Spain

SUMMARY

The aim of a university education is the intellectual development of citizens, and the training of professionals for their subsequent entry into the workforce. However, this entry into the workforce, following the theoretical education usually provided by the university, implies that students have to manage this difficult transition by themselves.

Society, in a continual process of transformation, requires of universities that they adjust, adapting the education they offer to comply with the demands of society and the workplace. Socio-emotional skills would seem to have influence predicting professional performance. These skills also influence job-finding and employability. Consequently, providing teachers with an education in socio-emotional competences is becoming a necessary task within universities, and the majority of teaching staff consider these skills to be fundamental to the personal and socio-emotional development of students.

The objective of our proposed work is to establish the characteristic profile of competences of a sample of teachers in training, and compare it with the competences profile of graduate students belonging to the fields of law sciences, social sciences, humanities, science and technology, and health. Starting from results, implications will be derived for the development of

⁹ This research has been funded by the PSI2009-12696 Research and Development Project of the State Secretariat for Research, of the Spanish Ministry for Science and Innovation, titled: *Intellectual, Personal and Socio-emotional Competences in the Entry to the Workforce of University Graduates*.

generic competences of socio-emotional type in the framework of the European Frame of Higher Education.

KEY WORDS: Competences profile; Teachers in training; University formation; Socio-emotional competences; Competency Based Teacher Education; Emotional intelligence

1 Introduction and theoretical points

One of the objectives pursued by universities is to promote access to employment. The central role of universities in the European Higher Education Area is to educate the student in terms of acquiring abilities, skills, competences and values, by adopting a new methodology focused on the learning of competences, including socio-emotional competences. (European Union Education Ministers, 1999)

Data from the entry into the workforce surveys highlight the importance of improving competence in IT, languages and social skills whilst also encouraging creativity, management, instrumental skills, decision making and leadership (ANECA, 2005).

According to Ariza (2000) “employability is determined by the interaction of two variables which act as driving elements of the process. On the one hand, the situation of the labour market itself, on the other hand, the adaptation of the candidate's skills to the demands of the labour market”.

Authors such as Planas et al (2000) put forward the hypothesis that individuals' formal qualification is less important, because it is a condition that is common to a large mass, instead it is a group of attitudinal and social skills towards work which increase career opportunities (Mora, 1997) as well as further training. Along these same lines, García-Aracil and Van der Velden (2008) point to the fact that students who graduate with greater professional competences achieve higher incomes and demonstrate higher job satisfaction.

Cognitive abilities are very important in the world of work especially when the work is more complex (Gottfredson, 2003; Schmidt and Hunter, 1998), however socio-emotional competences are also critical for the effective performance of most jobs (Ariza, 2001; Cherniss, 2000b), as well as for entry into the workforce and employability (Palací and Topa, 2002; Palací and Moriano, 2003).

Socio-emotional competences are highly valued in the labour market. The majority of jobs not only require technical knowledge and competences, but also a certain level of social and emotional competences (Repetto and Pérez-González, 2007). Even, as pointed out by Cherniss (2000b), a large part of the investment in training by the American industry is spent on training in social and emotional abilities.

The pursuit of maximum performance of workers in the workplace has lead to research into the abilities possessed by the most successful employees who improve the performance of the company. Through analysis of these abilities, several authors (Boyatzis et al. 2000; Goleman, 1995, 1998, 2001; Mayer and Salovey, 1997; Salovey and Mayer, 1990) have come to the conclusion that intelligence, not only general, but also socio-emotional intelligence and personality factors are part of the complex set of competences needed by individuals in order to successfully develop their professional work. The relationship between the emotional competences and performance has been supported by extensive research (Boyatzis, 2008; Brotheridge and Lee, 2008; Cooper, 1997; Dreyfus, 2008; Koman and Wolff, 2008; Murga and Ortego, 2003)

The existing proposals regarding the key competences that professionals should possess come from the knowledge of professional experts and the business world. However, it is in the educational sphere that curricula should be implemented which are able to meet the expectations of the world of work in terms of competences. Precisely one of the main problems encountered by educational institutions when trying to include the learning of generic competences in their curricula is how to evaluate them. Whilst academic competences are easily evaluated, academics wonder how to evaluate aspects which are not directly related to the acquisition of knowledge. This applies to the ability to build interpersonal relationships, responsibility, stress management, etc. Although there are methodologies aimed at

improving these aspects in the individual, it is difficult for us to incorporate them into the curriculum if we have no way to test the level to which they have been acquired by the students.

Once the skills involved in emotional and social intelligence are linked to performance in personal or professional life, and daily life in general, they constitute competence models (Boyatzis, 1999; Boyatzis, Goleman and Rhee, 2000). In particular, the mixed models of emotional intelligence include broad socio-emotional competences (Mayer, Salovey and Caruso, 2000). Furthermore the majority of the professional competences identified as key competences for professional performance constitute or are very close to the aspects studied within emotional intelligence. In a national survey of American employees, they found that six of the seven competences considered to be key to professional success belonged to emotional intelligence (Ayers and Stone, 1999; Goleman, 1998), but despite this, these competences are not incorporated into the majority of university programmes (Boyatzis, et al. 1995; Echeverría, 2002).

Although professional performance does not seem to be predicted or explained solely by these competences (Schmidt and Hunter, 1998), socio-emotional competences also seem to have a greater explanatory power than the other variables (Caruso and Wolfe, 2001; Goleman, 1998, 2001). These competences also have an effect on other important aspects of the professional career such as entry into the workforce or employability (Caruso and Wolfe, 2001; Fallows and Steven, 2000; and particularly, Hettich, 2000).

The research project “The Flexible Professional in the Knowledge Society: New Demands on Higher Education in Europe”, better known as REFLEX, is an initiative which forms part of the 6th Framework Programme of the European Union. In its reports it provides comparative data of up to thirteen European countries classified by students, employers and graduates, amongst others. In these reports reference is made to a subset of generic competences.

Although there is a wide variety of definitions and classifications of competences, and the construct is still subject to debate, there is agreement on the importance of the development of emotional

competences (Bisquerra and Pérez, 2007). In the professional sphere, the term is based on capacity, aptitude, ability, skill or efficiency which bring the individual successful performance at work (González and Wagenaar, 2003; McClelland, 1973; OCDE, 2002; ILO, 2008). For Cano (2005), talking about competences means referring to the ability of the subject to mobilise the resources he has acquired: the knowledge, skills and attitudes, in order to confront and resolve a problematic situation.

Apart from the REFLEX Project there are other classifications of competences. For example, the OCDE (2002) considers the selection of key competences to depend on what societies value, at all times and in all contexts. Currently, some of the most relevant proposals are those proposed by bodies such as the ILO/CINTERFOR (2008) the OCDE (2002), or González and Wagenaar (2003) in the Tuning Project.

Both the type, as well as the extent to which the socio-emotional components create an effect on diverse academic and professional domains, may depend on the area in question. Therefore it is necessary to define in general or specific terms the different aspects on non-academic intelligence, with the aim of identifying both general factors common to the different domains, and the concrete components of social, emotional and practical intelligence, related to each domain or professional field (Boyatzis, Goleman & Rhee, 2000). In order to do this, a profile of socio-emotional competences for each subject-professional field must be established, and the differences or similarities between the different profiles must be analysed.

There are many studies which show that a person's ability to adapt to their environment may be determined by emotional intelligence (Boyatzis, Goleman and Rhee, 2000; Ciarrochi, Chan, and Caputi, 2000). Good adaptability could be the reason for success in the workplace in various fields. Proof of this are the studies conducted by Møller and Powell (2001), Rozeil, Pettijohn and Parker, (2001), and Sjöberg, (2001) in the workplace; Culver and Yokomoto (1999), Lam (1998) and Parker, (2002) in the educational sphere; and Ciarrochi, Deane and Anderson (2002), Parker, Taylor and Bagby (2001) and Salovey, (2001) in the mental health sphere. Moreover, poor adaptability may have negative consequences at work, as is the case with the well known burnout syndrome (Aluja, Blanch, Biscarri, 2002). Other studies which analyse

how good management of stress or other emotional variables avoid or reduce stress or depression at work, and relate it to these variables in professional spheres as diverse as the health sphere (Aiken et al. 2002; Gil-Monte, 1991) and the educational sphere (Durán, Montalbán, Rey, Extremera, 2005).

In the professional sphere of teaching, the relationship between the emotional intelligence and the personal adjustment and the wellbeing of the teacher has begun to be examined (Palomera, Fernández-Berrocal and Brackett, 2008). Although there is no history in Spain of research into these competences, in the Anglo-Saxon countries, with the United States in the lead, there has been important and sound research in this regard, especially over the last decade (Repetto and Pérez-González, 2007). Proof of this is that the United States spends around 50 trillion dollars each year on training, largely focused on social and emotional abilities (Cherniss, 2000a). Other studies which analyse the relationship between emotional intelligence and burnout in secondary school teachers (Chan, 2006), show how burnout has a negative influence on student performance and the quality of their teaching; as well as on the teacher's wellbeing (Vanderberghe and Huberman, 1999) and the teacher-student interpersonal relationships (Yoon, 2002).

Weare and Grey (2003) in a study conducted on the development of competences conclude with the recommendation of explicitly developing both social and emotional competences, not only in the school but also in the teacher training institutes, based on the idea that it is not possible to teach a competence which one has not yet gained, just as quality teaching is not possible without the wellbeing of the teacher.

One of the other studies focused on the teaching profession is that conducted by Jennings and Greenberg (2009), and also that of Sutton and Wheatley (2003) which highlight the close relationship between the social and emotional competences of the teachers and the effectiveness and quality when the classroom teaching and learning processes are being carried out, as well as the development of the pro-social behaviour of the students in class. Di Fabio and Pazazzeschi (2008) evaluate the relationship between emotional intelligence and self-efficacy in a sample of Italian teachers. A similar study is carried out by Chan (2008) who studies the relationships between emotional intelligence, self-efficacy

and coping skills in teachers in Hong Kong. In Spain, the study on perceived emotional intelligence and life satisfaction in university lecturers by Landa, Lopez-Zafra, Martinez de Antonana and Pulido (2006) should also be mentioned.

Despite the importance that is given to emotional intelligence for the development of the professional activity of teaching there are few programmes aimed at training teachers. In our sphere there are several researchers who have noted the need to develop the emotional intelligence of teachers starting from initial training, as part of the general competences set by the EHEA (Bisquerra, 2005; Bueno, Teruel and Valero, 2005; Extremera and Fernández-Berrocal, 2004; Pesquero, Sánchez, González and Martín, 2008; Sala and Abarca, 2002; Teruel, 2000; Vivas, 2004). However, concrete proposals on how to include these competences in the curriculum for teachers still need to be established, despite the fact that in some cases it has been clearly demonstrated that training novice teachers in emotional competences has shown its effectiveness not only in increasing their own emotional competence, but also in predicting a smooth transition from the student role to professional life (Byron, 2001).

Thus the objective of our study is to establish the characteristic profile of competences of a sample of teachers in training, and compare it with the profile of competences of graduate students belonging to the fields of legal sciences, social sciences, humanities, science and technology, and health. Starting from results, implications will be derived for the development of generic socio-emotional competences of socio-emotional type in the framework of the European Frame of Higher Education.

2 Method

2.1 Participants

The sample consisted of students from the University of Alicante, enrolled on the final year of their degree. The students are from different degrees which have been grouped into the following subject-professional fields: Law Sciences (Law and Criminology) 96 students, Social Sciences (Economics and Sociology), 144 students, Education

(Teaching in Early Childhood, Primary and Secondary Education), 180 students, Humanities (History, Geography, Spanish Language), 62 students, Science and Technology (Biology, Computer Engineering and Architecture), 189 students, and Health Sciences (Nursing and Nutrition), 158 students. The total number of students in the sample is 829. The students have an age within the range 20 to 52 years and a mean age of 26 years. 54% are women and 46% are men.

2.2 Instruments

To assess the socio-emotional competences of students the following instruments were used.

The *Trait Meta-Mood Scale-24* (TMMS-24) is a version of TMMS-48 (developed by Salovey and Mayer) adapted and shortened by Fernández-Berrocal, Extremera and Ramos (2004). This self-report measure assesses three key dimensions of emotional intelligence: emotional attention, emotional clarity, and repair / emotional control. The subjects were asked to evaluate the degree to which they agreed with each of the items on a Likert-type scale of 5 points (1 = Strongly Disagree, 5 = Strongly Agree). After having been shortened, the scale has shown increased reliability in all its factors: Attention (.90), Clarity (.90), and Repair / Control (.86).

The *Emotional Quotient Inventory: Short* (EQ-i: S) by Reuven Bar-On (2002) is a short version of the *Emotional Quotient Inventory* which has been adapted into Spanish by MHS, Toronto, Canada. It consists of 51 items rated on a Likert-type scale of 5 points and assesses five broad factors of emotional intelligence: Intrapersonal Skills, Interpersonal Skills, Adaptability, Stress Management, and General Mood or Optimism. The EQ-i:S shows adequate validity, and internal consistency, assessed with Cronbach's alpha index, ranges between .65 and .86.

2.3 Procedure

To collect the data from the students, direct contact was made with the teaching staff of the final year subjects, in each specialisation. The subjects chosen were those that provided a high number of students since they were core subjects. Once consent was given by the teacher,

appropriate dates were chosen so that the tests could be performed during class time, when the number of students per classroom would be at its highest. Data collection was performed during the first term of the year, both in the morning and the afternoon, conducting the tests in their respective classrooms. The subjects were given sufficient time to perform the tests; giving them a maximum time of approximately two hours to complete all of the tests.

2.4 Design and data analysis

Different data analysis techniques have been used in this study, within a design that can be considered, in general, comparative *ex post facto*. First the profiles of each of the eight groups were established taking into account the different variables measured. To obtain the profile the scores of all of the variables were converted into a scale of 1 to 10 points which enabled direct comparison between the scores of the different aspects of emotional intelligence assessed.

To compare the profiles of the different groups the GLM - General Linear Model - module of the SPSS v.15.0 statistical package was used. Using this procedure a multivariate analysis of variance (MANOVA) and a univariate analysis of variance (ANOVA) with repeated measures were performed, in which the measures of the socio-emotional variables are treated as variables measured within the subjects, and the groups of students from the different fields act as between-subject variables.

3 Results

Table 1 shows the means and standard deviations obtained by each group of students in the different variables. The mean scores of the students range from 5.87 for the group of students in the science and technology field in the emotional attention variable and 8.77 for the students in the legal science and education fields in interpersonal intelligence. In general, for all subject fields, the highest means correspond to interpersonal intelligence and the lowest to emotional attention. We should bear in mind that high attention to one's own emotions does not seem to be associated with better emotional intelligence.

Table 1. Descriptive statistics, means and standard deviations (in brackets), for each subject-professional field.

| | Law Sciences | Social Sciences | Education | Humanities | Science & Technology | Health Sciences | Total score |
|---------------------|-----------------|--------------------|---------------|---------------|-------------------------|--------------------|----------------|
| Attention | 6.32 (1.5) | 6.39 (1.4) | 6.74 (1.4) | 6.50 (1.5) | 5.87 (1.4) | 6.81 (1.4) | 6.43 (1.5) |
| Clarity | 7.10 (1.4) | 6.64 (1.3) | 6.76 (1.3) | 6.76 (1.4) | 6.74 (1.4) | 6.90 (1.3) | 6.80 (1.4) |
| Repair/ control | 7.47 (1.3) | 7.10 (1.5) | 6.83 (1.4) | 6.77 (1.3) | 6.94 (1.5) | 6.87 (1.3) | 6.98 (1.4) |
| Intraper. Skills | 7.96 (0.9) | 7.59 (1.0) | 7.38 (1.1) | 7.55 (1.1) | 7.28 (1.2) | 7.50 (0.9) | 7.50 (1.0) |
| Interper. Skills | 8.77 (0.8) | 8.51 (0.8) | 8.77 (0.7) | 8.59 (0.6) | 8.28 (0.7) | 8.64 (0.7) | 8.58 (0.7) |
| Adaptabilit y | 8.05 (1.1) | 7.74 (1.0) | 7.24 (1.0) | 7.60 (0.9) | 7.85 (1.0) | 6.90 (1.0) | 7.73 (1.0) |
| Stress Managem. | 7.33 (1.5) | 7.18 (1.5) | 7.60 (1.3) | 6.94 (1.4) | 7.38 (1.4) | 7.57 (1.4) | 7.19 (1.4) |
| General Mood | 8.14 (1.0) | 7.99 (1.0) | 7.76 (1.1) | 7.69 (1.0) | 7.87 (1.0) | 7.81 (1.0) | 7.87 (1.0) |
| Total score | 7.64 (1.2) | 7.39 (1.2) | 7.38 (1.1) | 7.30 (1.1) | 7.28 (1.2) | 7.37 (1.1) | |

Taken by subject fields, the legal science students, in general, seem to have high values in most of the socio-emotional variables, except for emotional attention ($\bar{x} = 6.32$). Students from the educational field (early childhood, primary and secondary teachers) demonstrate a profile with scores that are below the total means in most of the variables, except in interpersonal intelligence ($\bar{x} = 8.77$).

To compare the profiles of students from different subject-professional fields a multivariate analysis of variance (MANOVA) and univariate analysis of variance (ANOVA) with repeated measures were performed.

In relation to evaluation of assumptions of this analysis, the Box's M test to test the homogeneity of variance-covariance matrices was non-significant ($F_{(180,405618)} = 1.107$, $p = 0.15$). However, the Mauchly's sphericity test showed a result of $\chi^2 = 1213.84$, $df = 27$, $p = .000$, thus not fulfilling the assumption of sphericity of the matrix of dependent variables. Therefore, the within-subject test for the effects of flatness

(socio-emotional effect) and parallelism of profiles (effect of interaction socio-emotional*field) was performed with the degrees of freedom corrected with the Epsilon adjustment values.

Table 2. Tests of within-subjects effects

| Source of variation | | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial η^2 | Observed Power (α) |
|-------------------------|--------------------|-------------------------|---------|-------------|--------|------|------------------|-----------------------------|
| Socio-emotional | Sphericity assumed | 2324.55 | 7 | 332.08 | 282.94 | .000 | .25 | 1.00 |
| | Greenhouse-Geisser | 2324.55 | 4.91 | 473.27 | 282.94 | .000 | .25 | 1.00 |
| | Huynh-Feldt | 2324.55 | 4.97 | 467.27 | 282.94 | .000 | .25 | 1.00 |
| | Lower Limit | 2324.55 | 1.00 | 2324.55 | 282.94 | .000 | .25 | 1.00 |
| Socio-emotional * field | Sphericity assumed | 197.64 | 35 | 5.64 | 4.81 | .000 | .02 | 1.00 |
| | Greenhouse-Geisser | 197.64 | 24.55 | 8.04 | 4.81 | .000 | .02 | 1.00 |
| | Huynh-Feldt | 197.64 | 24.87 | 7.94 | 4.81 | .000 | .02 | 1.00 |
| | Lower Limit | 197.64 | 5.00 | 39.53 | 4.81 | .000 | .02 | .98 |
| Error | Sphericity assumed | 676.33 | 5761 | 1.17 | | | | |
| | Greenhouse-Geisser | 6761.33 | 4042.29 | 1.67 | | | | |
| | Huynh-Feldt | 6761.33 | 4094.19 | 1.65 | | | | |
| | Lower Limit | 6761.33 | 823.00 | 8.21 | | | | |

α Alpha = .05

Table 2 shows the within-subject effects, and non flatness and non parallel profiles are observable. Variations in the DVs have proved significant for all statistics in the flatness test ($F = 282.94$; $p < .05$ y η^2 partial = .25). These profiles are shown graphically in Figure 1, in which we can observe both the profile of education students and that of those from the other subject fields. Also significant were the variations in the socio-emotional variables for each subject field in all of the statistics shown from the parallelism test. ($F = 4.81$; $p < .05$, partial $\eta^2 = .02$).

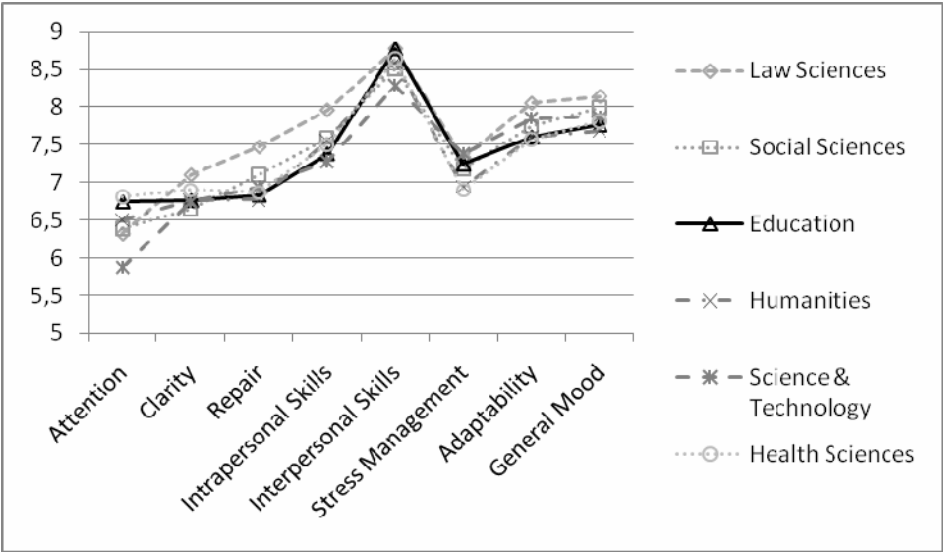


Figure 1. Graph of the social-emotional intelligence profiles by subject field.

To evaluate deviation from parallelism of the socio-emotional profiles, confidence limits were calculated around the mean of the profile for the six groups combined. Alpha error for each confidence interval was set to .0015 to achieve an experimentwise error rate of 5%. Therefore, 99.85% limits were evaluated for the pooled profile (Tabachnick & Fidell, 2007). Confidence intervals for each socio-emotional variable of the pooled profile are shown in Table 3.

Table 3. Estimated marginal means

| Socio-emotional variables | Mean | Error | Confidence interval 99,85%. | |
|---------------------------|-----------------|-----------------|-----------------------------|-------------|
| | Límite inferior | Límite superior | Lower Limit | Upper Limit |
| Attention | 6.44 | .05 | 6.26 | 6.61 |
| Clarity | 6.82 | .05 | 6.65 | 6.98 |
| Control | 7.00 | .05 | 6.83 | 7.17 |
| Intrapersonal skills | 7.54 | .04 | 7.42 | 7.67 |
| Interpersonal skills | 8.59 | .02 | 8.51 | 8.68 |
| Stress Management | 7.16 | .05 | 6.99 | 7.33 |
| Adaptability | 7.74 | .03 | 7.61 | 7.86 |
| General Mood | 7.88 | .03 | 7.75 | 8.00 |

Table 4 shows the socio-emotional profile for every subject field. The cells marked with “*” indicate that the mean falls outside the limits of the confidence interval. With regard to the Education students, the attention, intrapersonal skills, interpersonal skills, and adaptation variables fell outside the limits of the confidence intervals of the pooled profile, that is, their means were significantly different from the mean of all students. The Education students, as well as the Health Science ones, had a significantly higher mean on attention than that of the pooled groups. Likewise, Education students had a significantly high score on Interpersonal skills, sharing the same mean as that of the Law Sciences students. On the other hand, they had a significantly lower mean on Intrapersonal Skills than that of the pooled subject fields (as well as the Science & Technology students). They were also slightly low on adaptability; this fact also occurred with the Humanities and Health Sciences students. As far as the rest of variables are concerned, that is, Clarity, Control, Stress management, and General mood, Education students’ scores fell inside the confidence interval of the pooled profile, so the differences with the pooled profile could have been due to chance.

Table 4. Profile Means

| | Subject field | | | | | | Total |
|----------------------|---------------|--------------|-----------------|------------|----------------------|-----------------|-------|
| | Education | Law sciences | Social sciences | Humanities | Science & Technology | Health sciences | |
| Attention | 6.74* | 6.32 | 6.39 | 6.50 | 5.87* | 6.81* | 6.43 |
| Clarity | 6.76 | 7.10* | 6.64* | 6.76 | 6.74 | 6.90 | 6.80 |
| Control | 6.83 | 7.47* | 7.10 | 6.77* | 6.94 | 6.87 | 6.98 |
| Intrapersonal skills | 7.38* | 7.96* | 7.59 | 7.55 | 7.28* | 7.50 | 7.50 |
| Interpersonal skills | 8.77* | 8.77* | 8.51 | 8.59 | 8.28 | 8.64 | 8.58 |
| Stress management | 7.24 | 7.33 | 7.18 | 6.94* | 7.38 | 6.90* | 7.19 |
| Adaptability | 7.60* | 8.05* | 7.74* | 7.60* | 7.85 | 7.57* | 7.73 |
| General Mood | 7.76 | 8.14* | 7.99 | 7.69* | 7.87 | 7.81 | 7.87 |

*Variables whose mean fall outside the limits of the confidence interval defined in Table 3.

With regard to the test of level, or between subjects effect, (Table 5), there are differences between the means of the groups in all the socio-emotional variables. However, this difference is minimal given that the effect size of the factor of belonging to the subject field (partial $\eta^2 = .02$) is very small.

Table 5. Tests of between-subjects effects

| Source | Type III Sum of Squares | df | Mean Square | F | p | Partial η^2 | Observed Power (α) |
|-----------|-------------------------------|-----|----------------|----------|------|---------------------|--------------------------------|
| Intercept | 311335.10 | 1 | 311335.10 | 85083.35 | .000 | .99 | 1.000 |
| Field | 72.93 | 5 | 14.58 | 3.98 | .001 | .02 | .950 |
| Error | 3011.50 | 823 | 3.65 | | | | |

α Alpha = .05

To analyse the differences between the education students and students from the other subject fields Scheffé's univariate contrast was performed (Table 6). This comparison shows how education students possess a different, statistically significant, level of socio-emotional competences, compared to the other subject fields. The differences in competences are found with the legal sciences students in emotional control, intrapersonal intelligence and adaptability, in which education students are below the legal sciences students. The other subject field with which differences are found is science and technology; in this case education students are above these students in interpersonal intelligence and attention to their own emotions. As for the fields of social sciences, humanities and health sciences, no statistically significant differences with the education students are found in any of the variables analysed.

Table 6. Univariate contrast of Scheffé to test mean differences

| Field | Law sciences | Social sciences | Humanities | Science & Technology | Health sciences |
|----------------------|--------------|-----------------|------------|----------------------|-----------------|
| Attention | .43 | .43 | .25 | .90* | -.04 |
| Clarity | -.34 | .06 | .01 | .01 | -.14 |
| Control | -.62* | -.22 | .09 | -.08 | -.03 |
| Intrapersonal skills | -.57* | -.24 | -.17 | .09 | -.11 |
| Interpersonal skills | -.00 | .26 | .17 | .48* | .12 |
| Stress management | -.08 | .01 | .30 | -.10 | .30 |
| Adaptability | -.43* | -.14 | .01 | -.23 | .01 |
| General Mood | -.38 | -.23 | .05 | -.12 | -.05 |

* Significant difference at .05.

4 Discussion and conclusions

Taken as a whole, the results show that students in the educational field demonstrate a similar or lower profile of socio-emotional competences than students in the other subject-professional fields, excelling only in interpersonal skills, in which they are equal to the students in the legal sciences field. Likewise, they also show greater attention to their own emotions, along with the health sciences students.

The legal sciences students seem to have high values in most of the socio-emotional variables, whilst education students demonstrate a profile with scores that are below the total averages in most variables, except in interpersonal intelligence.

Education students are below the legal sciences students in the emotional control, intrapersonal intelligence and adaptability variables, and above the science and technology students in interpersonal intelligence and attention to their own emotions. Whilst in the fields of social sciences, humanities and health sciences, there are no statistically significant differences with the education students. On the one hand, it might seem logical that education students are those who perceive

themselves to have the greatest ability to pay attention to their emotions and distinguish how they feel at every moment, given that due to their future professional work they will be required to be in constant contact with younger students whose emotions must be monitored; however, paying too much attention to one's emotions can be detrimental to the person.

Given the importance of the socio-emotional competences for the adequate development of teachers' work, and the relatively low level that trainee teachers demonstrate, it seems necessary to create programmes to develop these competences within the students' curriculum. Emotional intelligence involves the development of a set of skills that every teacher should learn for two reasons: firstly because the classroom is the model of adult social-emotional learning which has the greatest influence on students, and secondly because research shows that adequate levels of emotional intelligence help individuals to cope more successfully with the daily setbacks that teachers face in the educational setting (Extremera and Fernández-Berroca, 2004).

Some Anglo-Saxon programmes (also in Spain, Vallés, 2003) emphasize the integral skills to the concept of emotional intelligence proposed by Mayer and Salovey as a useful tool for coping with personal and interpersonal conflict in educational centres and for the complete development of the student. However, there are still very few educational institutions to have established specific programmes which promote the necessary skills in the teacher to employ an education style that emphasizes emotional development (Sala, 2002).

On the other hand, recent studies argue that managers who prove to be "Highly Effective" start to develop their skills at an early age and prior to their professional experience (Dreyfus, 2008). However, although consensus on the importance of emotional competences is high (Palomera, Fernández-Berrocal, and Brackett, 2008), developing this type of training depends on the entire educational community involved in the process, from schools to universities, both of which often experience great difficulty (Elias *et al.*, 1997; Zins, Weissberg, Wang, & Walberg, 2004).

Therefore it seems justified to develop the socio-emotional skills in the university curriculum, given the importance of these skills for career development. The question then arises of how to incorporate generic socio-emotional skills into the university curricula established within the framework of the European Higher Education Area. Although there are several initiatives in this regard (Fallows and Stevens, 2000; Jaeger, 2003), these have been implemented in areas other than education. Even though most of the programmes argue that the development of these competences should be integrated into conventional academic work, the normal curriculum, and supplemented through extracurricular learning (Fallows and Stevens, 2000).

Thus it seems necessary to introduce teaching methods into future teacher training which are capable of promoting the development of socio-emotional competences. We suggest, for example, the use of the expository and lecture methods to develop self-awareness and emotional self-control. To develop the skills related to teamwork and interpersonal relationships we suggest cooperative work, group dynamics, and others; methodologies which purport to show how certain educational and social objectives can be achieved by coordinating actions that otherwise could not be achieved; in other words, how the outcome of teamwork achieves benefits sought and shared by all. To develop competences related to negotiation and conflict resolution, we propose a methodology based on case studies, problem solving, etc. To develop competences related to decision making, interpersonal relationships, adaptability and assertiveness we suggest project-based learning. And for the development of competences related to assuming responsibility, self-control and motivation we suggest the use of autonomous learning.

Finally it is important to remember that if universities seek to train their students in the competences sought by businesses, initial teacher training should include emotional competences if we are to be consistent with that which research has taught us, that which the education laws require of us and the model of European society we are in pursuit of (Palomera, Fernández-Berrocal, and Brackett, 2008).

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